

Material specification sheet

Saarstahl - 23MnNiCrMo5-2

Material No.:

Former brand name:

International steel grades:

1.6541

BS:

AFNOR:

SAE:

Material group:

Steel for welded round link chains according to DIN 17115

Chemical composition: (Typical analysis in %)	C	Si	Mn	P	S	N	Cr	Cu	Mo	Ni
	0,20 0,26	<0,25	1,10 1,40	<0,020	<0,020	0,012	0,40 0,60	<0,25	0,20 0,30	0,40 0,70

Application:

Hot rolled steel bars, wire rod, or bright steel for processing welded round link chains.

Hot forming and heat treatment:

Soft annealing:

650 - 720°C

Normalising:

860 - 900°C

Hardening:

870 - 890°C/water

Tempering:

min. 400°C

Mechanical Properties:

Condition of delivery	Treated for cold shearability (C)	Soft annealed (G) or cold drawn + soft annealed (K+G)	Cold drawn + soft annealed + cold drawn (K+G+K)	Spheroidized annealed (GKZ) or cold drawn + spheroidized annealed (K+GKZ)	Cold drawn + spheroidized annealed + cold drawn (K+GKZ+K)
Tensile strength R_m [N/mm ²]	max. 860	max. 790	max. 930	max. 710	max. 850
Hardness [HB30]	max. 255	max. 235	max. 275	max. 210	max. 250
Hardness [HV10]	max. 268	max. 247	max. 289	max. 221	max. 263

Condon of heat treatment	Quenched and tempered (V) for diameters up to max. 20 mm
0,2% proof stress $R_{p0,2}$ [N/mm ²]	min. 980
Tensile strength R_m [N/mm ²]	min. 1180
Fracture elongation A_5 [%]	min. 10
Reduction of area Z [%]	min. 50
Notch impact energy ISO-V [J]	min. 40